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2. A method as in claim 1, wherein said providing step comprises providing an artificial blood vessel inner layer having a tubular section comprising a fluoro carbon polymer.

5 3. A method as in claim 1, wherein said providing step comprises providing an artificial blood vessel inner layer having a tubular section that has a length at least as long as said removed section of blood vessel inner layer.

10 4. A method as in claim 1, wherein said providing step comprises providing an artificial blood vessel inner layer having a stent comprising a stainless steel gauze.

15 5. A method as in claim 1, wherein said providing step comprises providing an artificial blood vessel inner layer having a stent comprising a length of memory metal pre-programmed to expand at a determined temperature.

20 6. A method as in claim 1, wherein said providing step comprises providing an artificial inner layer having an enclosure comprising a fluid-tight enclosure.

25 7. A method as in claim 1, wherein said positioning step comprises positioning said artificial inner layer using a catheter.

8. A method as in claim 7, wherein said catheter comprises a guide wire and a sheath.

25 9. A method as in claim 7, wherein said catheter comprises a blood vessel widener.

30 10. A method as in claim 9, wherein said widener comprises a cone-shaped element operably attached to a distal end of said catheter.

30 11. A method as in claim 9, wherein said widener comprises an inflatable balloon operably attached to a distal end of said catheter.

35 12. A method as in claim 9, wherein said widener is wider than said end section during said inserting step and narrower than said end section after said retaining step due to said stent enclosed within said end section expanding during said expanding step.

40 13. A method as in claim 9, wherein said widener has substantially the same diameter as an internal diameter of said blood vessel.

45 14. A method as in claim 9, wherein said retaining step comprises using said widener to widen said stent in order to press said end section against said end flap.

45 15. A method as in claim 1, wherein said retaining step comprises retaining said end flap by expanding said stent so that an outer diameter of said tubular section is approximately equal to an inner diameter of said blood vessel.

50 16. A method as in claim 1, wherein the providing step comprises providing an artificial blood vessel inner layer further comprising two end sections creating two enclosures and two stents enclosed within said enclosures.

55 17. A method as in claim 1, further comprising the step of stitching one end section to said blood vessel.

55 18. A method as in claim 9, further comprising the step of bunging the blood vessel.

19. A method as in claim 18 wherein said bunging step comprises bunging said blood vessel using said widener.

60 20. A method as in claim 9, further comprising the step of exerting pressure outwardly on said stent with said widener during a withdrawal of said catheter from said blood vessel.